

are such declinations as to make a nervous impulse toward convergence a part of the adjustment for parallelism of the vertical meridians. These and other important considerations are to be carefully weighted in every instance and treatment directed,, not necessarily or generally immediately against the most conspicuous heterophoric tendency, but against the inducing conditions from which the conspicuous tendency arises."

In the consideration of operation measures for exophoria Worth<sup>2</sup> places great stress upon the necessity of observing the state of the dynamic convergence for near points. He advises against operation when there is an insufficiency of convergence, or, as Stevens expressed it, an exophoria in accommodation.

Stevens, on the other hand, claims that insufficiency of convergence is of no practical significance, excepting its slight value as a collateral test; that the condition is variable and may change from day to day, and does not represent the adjustments of the muscles.

The belief that a tendon, when severed from the globe and permitted to fall back, will form a secure attachment in its changed position is erroneous. It is probable that firm attachment never takes place. The tendon holds for a variable time, but almost exclusively by its lateral attachments. We cannot feel sure of our ground after a complete tenotomy, however skillfully performed. A correction of a deformity today may result in a more noticeable and intractable one as time passes. A rule ever to bear in mind, when operating upon the tendons of the eye, is to never destroy or seriously impair the functions of a muscle.

In high degrees of squint, with no hopes of binocular vision, or in some conditions of paralyses, it may be necessary to resect a part of the tendon. This is best performed with Prince's forceps, after the method of Worth, resecting a portion of the tendon, capsule and conjunctiva, bringing them forward and anchoring at the required position.

Recognizing the close association of accommodation and convergence, the splendid results which sometimes follow the correction of refractive errors, especially in cases of esophoria and convergent squint, observation abundantly proves the existence of causes other than refractive errors. The first and most important principle to recognize is that the etiological factor does not lie in an overaction, or an underaction of the opposing muscles. It is well known that excessive abduction and insufficient adduction may be present in convergent strabismus, and vice versa in the divergent form.

The cause for the heterophoria or heterotropia may be a lack of development of the fusion sense in the brain, withholding the normal stimulus for binocular vision; formation of the orbit to cause the visual line to be above or below the normal, faulty attachment of the lateral fibers of muscles, or an unequal plane of the visual axis of the eyes.

Rational surgery of the eye muscles for heteropho-

ria cannot be performed until the presence or absence of all these conditions is absolutely known.

Convergent squint, although in appearance is a direct turning of the eye, has, as a general rule, more or less of a verticle deviation, an excessive upward rotation of the squinting eye. This condition will be found in a large majority of cases, and, not infrequently, surgical means directed to the verticle muscles, preferably the superior rectus of the deviating eye, is all that is required or is desirable for a correction.

This inequality of the tension of the verticle muscles is also a very potent cause of divergent squint.

In a report of 200 cases of strabismus, reported by Stevens, it is shown that hypertropia, a deviation of one visual line above the other, is the principal causative element in 24½ per cent of them, an important factor in more than 50 per cent, and is present in practically all cases of concomitant squint.

Leaning of the image of one or both eyes is almost a constant accompaniment of ocular deviations.

The strongest visual impulse is that of maintaining images in an upright position. Objects not thus seen lose their equilibrium, buildings and trees appear to fall and walking is difficult.

This effort to maintain an equipoise is, in many cases, the sole cause of strabismus.

These anomalies of declination of the visual axes, or leaning of the meridians, can be indirectly effected by changing the insertion of the tendons of the superior or lateral muscles. A portion of the attachment of the tendon, in accordance with the meridian to be effected, is severed and advanced, forming an oblique insertion to the globe.

It is difficult, and sometimes impossible, to induce a strabismic patient to see the second image. Our efforts are thereby thwarted to accurately measure the deformity.

In such a case a partial correction only should be attempted, the object being to induce diplopia, a necessary condition for accurate measurements.

Presuming the deviating eye to possess a modicum of vision, the final correction should not be attempted until exact measurements are made. This is only possible when the patient can locate the two images.

Such a procedure may be slow and tedious, but the results obtained are well worth the effort.

#### THE OCCASIONAL FALLACIOUSNESS OF THE DIAGNOSIS OF ENLARGED PROSTATE MADE FROM DIGITAL EXAMINATION THROUGH THE RECTUM.\*

By GRANVILLE MACGOWAN, M. D., Los Angeles.

To those who have acquired considerable experience in the surgery of the prostate it is very well known that the examination of this gland through the anterior wall of the rectum rarely gives any accurate or dependable information as to the situation and size of the tumors which actually prevent the

<sup>2</sup> Squint, by Worth.

\*To have been read at the Thirty-seventh Annual meeting of the State Society, Del Monte, April, 1907.

free passage of urine from the bladder, or create disturbances in the rhythmical contraction of this vicus.

Given the symptoms of prostatism and the inference drawn from a rectal examination, which reveals a tumor in the anatomical situation of the gland, is always that the condition is one for which an enlarged prostate is responsible. In nearly every case the inference is correct. But there are exceptional instances in which the most experienced surgeons may be deceived.

The three cases upon which I report in this writing are of this character.

Case I. J. T. B. 52, married, farmer, a citizen of Temecula, came to me May 5, 1898, with total retention.

History: From childhood had an irritable bladder. At 20 he had a gonorrhoea which was readily cured. Married at 22, and has been a person of good habits ever since. About 1890 he noticed some lessening of the force of his urinary stream and soon afterward had to rise at night to pass water. The power diminished and the nocturnal frequency increased until in 1893 he was compelled to resort to the catheter to empty his bladder, and he had led a catheter life continuously until increasing irritability of the bladder, and the desire to be relieved of the tyranny of the catheter brought him to me.

Examination: The man was wan and haggard from pain and loss of sleep, but the examination of the organs of the chest cavity and abdomen was negative. His kidneys were not enlarged or tender upon pressure. No obstruction in the urethra until the prostatic portion was reached. A soft rubber catheter would not pass into the bladder until stiffened with a stylet, and a silk Mercer required some force to enter. The bladder contained 180 cc of very purulent ammoniacal urine. The bladder base was examined through the rectum before passing a catheter and a marked bilateral smooth enlargement of the prostate noted. After catheterization a bimanual examination disclosed a tumor in the position of the prostate.

Under an anesthetic he was sounded for stone with a negative result. The bladder was irrigated twice daily until May 10th, with a 1-30,000 solution of silver nitrate, when a prolonged and careful cystoscopic examination was made. At this examination a number of physicians assisted; a demonstration of the bladder was made to the class of students, and the cystoscope was withdrawn and replaced several times.

The conditions found were those of a chronic cystitis. The image of the bladder neck showed a marked protrusion of the prostate into the field below, to each side and above, but there were no distinct nodules projecting. A diagnosis of retention from enlarged prostate was made and on May 20th, a perineal urethrotomy was made preparatory to the removal of the gland. Upon enlarging the cut in the membranous urethra with a Blizard, which I happen to prefer always to tearing or boring these tissues with the finger, there was a sudden gush of pus and debris. Upon following the knife with my finger it entered a hole in the anterior margin of the prostatic capsule which had been made by my knife cutting on the bottom of the urethra, and one by one I withdrew a large number of faceted phosphatic calculi, some of which easily crumbled.

Upon sweeping my finger around on both sides I found there was nothing left of the prostate except an excessively thickened capsule, which had been so tightly spanned about the abscess cavity that it had, by pressure upon the stones contained within it, completely blocked the passage of urine and ac-

curately simulated to the examining finger in the rectum, and to the cystoscope an enlarged prostate. There evidently was some communication with the urethra for the stones were stained by methylene blue which he had been taking for a month before he came to me. There was always more or less purulent discharge from the urethra but this aroused no suspicion of a prostatic abscess, for there was no fluctuation to be detected in the prostate, and there had been no pain referable to this organ, and as the irritability of the bladder was so great that he had to pass a catheter every hour of the twenty-four the mechanical irritation of the dirty catheter was sufficient to account for the presence of urethral pus. His physician had passed sounds for him, he had been in the habit of passing sounds himself at times to "loosen up," as he called it, the bladder so that the catheter would pass more readily. I sounded him for stone as also did my assistant, and we passed the cystoscope several times without ever anything occurring to make any of us suspect the presence of these stones which lay packed all around the prostatic urethra.

Case No. 2, B. W., 37 years; laborer. Referred to me by Dr. Frank Bullard, Jan. 20, 1904.

Complaining of great frequency and difficult urination for five months. He never had previously any serious illness. At 27 and 32 had light attacks of gonorrhoea.

Examination: Testicles normal, no stricture, no enlargement of glands of groin. Bladder capacity 150 cc, residual urine 15 cc. Urine acid, specific gravity 1022, contains pus, a few red blood corpuscles, some albumen but no casts, no tubercle bacilli, but streptococci, and colon bacilli present.

By rectal examination the bladder being empty, the prostate appeared very large and nodular, the middle and upper portions seemingly projected into the bladder. There was no enlargement of the lymph glands out along the sides of the pelvis and no involvement of the seminal vesicles. It was noticed that the extreme limit of vesical distensibility was 150 cc and that upon bimanual palpation the bladder wall was thick; this was however attributed to a pericystitis; and as the patient was very anxious for the relief to be obtained from a vesical drainage no cystoscopic examination was attempted. On February 2nd I did a section alta upon him. As I neared the bladder the character of the tissues told of malignancy. The whole superior wall was occupied by a thick and heavy epithelioma which filled the bladder space, rested upon the trigone and felt then, as before operation, to the examining finger in the rectum, like a growth in the prostate, though the region of the trigone was not actively involved in the cancerous process, and the prostate was healthy.

Case No. 3.—Mr. R. C. M., 70 years. Nov. 2, 1906. Retired railroad officer.

For many years he has had some frequency and some difficulty in passing urine due to a tight stricture of the phallic urethra. For five months he has had complete retention and led a catheter life.

Examination: Dense stricture 16 F., extending from the meatus to a point  $2\frac{1}{2}$  cm posterior. Prostate feels through the rectum enlarged, but not clearly outlined, giving rise to suspicion of cancer of bladder base. Bladder capacity 900 cc; urine cloudy and full of pus. The silk catheter used gave upon entering the bladder a distinct sensation of pushing something aside. Urine acid, specific gravity 1020, cloudy and full of pus. On November 6th, I cut the stricture and examined the interior of the bladder with a Kollman cystoscope. The image of the bladder neck was very irregular and many projections could be observed about it. No definite image of the trigone could be obtained and neither ureter could be seen. No satisfactory view of the superior bladder wall could be gotten.

November 8, Sectio Alta. Upon introducing my

finger into the bladder a cavity so enormous was encountered that I thought I had broken into the peritoneal cavity, but in the anterior part of its floor I found an elliptical opening, 4 cm long by 2 cm broad, into another chamber in which I could feel the sound passed into the bladder through the urethra. This opening was enlarged, an assistant passed two fingers in the rectum and on then exploring the lower vesical cavity and the posterior urethra I found there was no enlargement of the prostate at all, either intravesical or intra-urethral. I was dealing with a peculiar vesical deformity the conditions of which had become exaggerated by the strain incident to the long existing obstruction of a tight stricture.

It was really an hour-glass bladder the ureters running diagonally across the lower wall of the septum, ending in a trigone which had gradually hypertrophied until it sagged into the vesical outlet, producing total retention and simulating to the finger in the rectum prostatic enlargement to such a degree that in the presence of the other symptoms deception was easy. The passage between the two chambers was anterior to the dip of this mass.

The operation for relief of the condition consisted in removing a section of the septum, 8 cm long by  $3\frac{1}{2}$  wide, so as to provide for free drainage and approximately throw the two chambers into one. The trigone was then raised, the heavy intra-ureteral bar excised, the ureters dissected out and carried to the end of the raw surface left by the removal of the septum at its junction of the lower bladder wall, a distance probably 7 cm and there securely anchored in a denuded space prepared for them. It was found necessary to resect a portion of the right ureter. The patient made an uneventful recovery. The abdominal wound leaked a very little for about ten weeks. He now passes from 180 to 240 cc of urine every three to four hours in a good stream and does not have to rise at night. He passes the catheter once a day and withdraws from 200 to 250 cc of urine.

A cystoscopic examination was made at the time of writing this report, April 15th, and a very good view of an unobstructed bladder neck obtained. The mouth of the right ureter may be seen in its new position a long way off from the bladder neck. The urine may be seen coming from the left ureter but the mouth itself not observed for it is concealed by a sag in the bladder wall.

I suppose that other surgeons doing many bladder and prostatic operations might add to this experience. But whether they can or not do so, I want these cases to go on record as illustrations that in an apparent condition of prostatism, with an apparent tumor of the prostate to account for it, there sometimes is not really a real prostatism and the tumor is not really prostatic, however much it may seem to be so from a carefully conducted rectal examination.

### A FATAL CASE OF PEMPHIGUS, BEGINNING IN THE PHARYNGEAL MUCOSA.\*

By M. W. FREDRICK, M. D., San Francisco.

That the mucous surfaces can participate in or be the starting point of almost all the pathological processes which arise on the general integument is such a well-known fact that it need not be insisted upon here. We have only to think of the exanthemata and syphilis to obtain a forcible illustration of

our point. The trouble in recognizing the pathological processes lies in the changed appearance of the lesions on the mucous surfaces, which often makes a diagnosis difficult or impossible. This is more liable to be the case if the disease in point is a rare one and there is no concomitant skin lesion to serve as a diagnostic guide. I might soothe my diagnostic pride with the reflection that many authors maintain that a diagnosis of pemphigus, when affecting the mucous surfaces alone can not be made, but I will freely admit that I was astonished when I at last saw what I was dealing with in the following:

Mrs. J., widow, aged 68, had always enjoyed good health, and had raised four children who are in fairly good health. While there is a general neurotic tendency in the children, it is absent in the mother. I had seen the patient before for several minor things, such as the correction of her refraction, and some slight middle ear trouble, but had never treated her for anything of consequence. In October, 1904, she came to me with the history that the day before, while drinking coffee and eating a slice of bread, one of the breadcrumbs had scratched her throat. Examination revealed a long, narrow excoriation in the region of the right pyriform sinus, such as might easily have been caused by the passage of a rough body over the mucous surface, and treatment was given accordingly. She returned several days later with a similar lesion below the left tonsil, for which she could not account. At the same time I noticed a very much engorged vein crossing the right tonsil, and sent her to her family physician, Dr. Chas. G. Levison, for general examination; he reported that there was nothing wrong with the patient except a general lack of tone, for which he prescribed tonics and Nauheim baths. She came to the office on two more occasions, several days apart, with new lesions in the region in front of the tonsils. After that I did not see her for about a week, when I was asked to visit her at her home, as she was too weak to go out. I found that she had a number of new lesions on the posterior part of the tongue and on the interdental parts of the buccal mucosa. These spots suggested eroded mucous plaques more than anything else, except on the tongue; where they had coalesced, presenting a picture such as one often sees in severe cases of mercurial stomatitis, a broad, grayish patch occupying almost the entire breadth of the tongue. Eating had become painful by this time. Dr. Levison and I sought to discover the source of the trouble, without success. There was no history of lues or ingestion of mercury. Her dentist stated that he had not used any material containing mercury in her mouth. The lesions in the mouth kept growing more numerous until finally the whole mucous surface was covered. The pain and discomfort kept increasing in the same ratio, and eating was almost impossible, although free use was made of orthoform, anesthesin, and solutions of antipyrin. The etiology still remained obscure until one day, while I was calling on her, her night-dress slipped disclosing a necklace of blebs, some already dry, and some still fresh, which at once gave a clue to the diagnosis. These blebs had been present several days, but had been wrongly ascribed to the baths which the patient had been taking. The next day several blebs appeared on the lips, and the patient became hoarse, showing that the disease was extending downwards also. On the conjunctiva several small patches appeared, but not until several days later were blebs seen on the lid margin. Whether this process on the conjunctiva would have given rise to essential atrophy or shrinking of the conjunctiva could not be decided, as the process did

\*Read at the Thirty-seventh Annual Meeting of the State Society, Del Monte, April, 1907.